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Clinical practice

Defining standards for medico-legal reports in forensic evaluation of suspicious childhood injury

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ABSTRACT

Expert opinions in the form of medico-legal reports are requested by police investigators and statutory child protection officers from child protection/forensic paediatricians to help them to make child protection and prosecution decisions. These reports must be understood and able to be correctly interpreted by a range of professionals and as well as comply with the requirements of expert court reports. There is currently much variation in report construction. Having a medico-legal report framework which defines structure and standards assists report-writers to achieve objectivity, can be useful for training, peer review audits and ensures optimal standards in opinion formulation. Using legal judgements relating to child abuse proceedings, author experience and the limited existing literature, a tool is presented which defines report standards specifically in relation to the assessment of suspicious injuries.

1. Introduction

When an injury which is suspicious of having been inflicted is evaluated by paediatricians they will prepare a report. If legal proceedings follow in relation to the injury then the forensic medical report will usually be part of the documents for the prosecution. Reports relating to suspicious childhood injury must "cross borders" of disciplines of social science, medicine and the law; their critical function is to accurately and understandably convey the medical opinion to the relevant professionals.[1]

Paediatricians who undertake these injury assessments have varying levels of child protection experience. Most spend the majority of their clinical time in work not involving child protection assessments. Therefore, their experience in writing forensic reports is variable. In recent times there has been increased scrutiny by judicial officers and the media of forensic opinion and the practices of paediatricians in child protection, both in regard to their reports and also their appearance as expert witnesses.[2,3]

Little guidance in the preparation of reports relating to suspicious injury has been provided. Whilst guidelines have been produced to assist paediatricians appearing as expert witnesses, they have not included the production of the reports which form the basis of expert opinion. Currently in Australia and New Zealand there is no requirement demanding adherence to specific standards of format or content for medico-legal reports prior to being submitted to the legal justice system.

It is timely that the paediatric profession itself begins to define standards of forensic practice rather than by responding to sanctions and criticism following high profile cases. Peer review has been previously identified as one important mechanism for regulating forensic practice.[4] Having a framework which defines the structure and standards for medico-legal reports is another way to assist report writers in ensuring their opinion remains objective, and can form the basis for peer review and quality audits. Adherence to such guidance will minimise the risk attached to the forensic role.

2. Background

Forensic reports in relation to injury assessment are written as a formal vehicle of communication between professionals. Written reports are important because research has identified limitations when communication of opinion is limited to only verbal discussion with other professionals.[5] This may lead to variability of interpretation, without the support of a written document. Research from Canada examined the content of medico-legal reports relating to child abuse and identified significant variation and at times

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omission of critical information that was only available from the medical assessments.[6] Common deficiencies of forensic reports in this study included writers failing to provide a formulation or explanation for the basis of their opinions and not including credible alternative explanations for the findings described. The authors called for the creation of a structured form for writing reports relating to allegations of child abuse.[6,7]

Consequently the authors of this paper compiled, from their experience, a list of specific section headings and core principles they considered necessary in report-writing. They have been initially based on the practice experience of the authors, which stretches over 30 years. In addition, the development of the principles was augmented by sending them in a questionnaire format to a group of experienced Australian and New Zealand child protection paediatricians for their consideration and comments. Their individual experience was established by obtaining information about their child protection practice, teaching, current positions in child protection, practices in relation to writing medico-legal reports, the provision of oral court evidence and the jurisdictions in which the evidence was given.

All respondents to the questionnaire agreed that the medico-legal report should be well balanced, objective, unbiased and be useful to the Court; that is not partisan to either the prosecution or defence. Also, all agreed it to be critical that the report should be easily understandable to the non-medical professional and if medical terminology is used, it should be appropriately explained.

The report writing tool has been developed (see Appendix) defining the structure, standards and principles for medico-legal reports which were derived from a modification of the authors proposals derived from the questionnaire responses.

3. Specific section headings and core principles of report-writing – subsequent to analysis of the returned questionnaires

1. Identifying details such as the child's name, age at the time of the investigation or injury, date of the report as well as the report-writer's qualifications and experience;
2. Referral information or background;
3. A list of material relied upon and considered in the preparation of the report and the formulation of the opinion;
4. Detail of the various examination findings and adequate descriptions of the injuries including a comment on any photo-documentation with any limitations (overall quality, adequacy of depiction of injury) of such documentation mentioned;
5. Listing of investigations, the indications for undertaking them and their results (interpreted in relation to the injury);
6. The reported history of the injury event (what happened, when, how, who was involved and was the event witnessed), including the source of the information provided;
7. The symptoms reported to have been manifest by the child as a consequence of the injury;
8. An opinion which should attempt to address
   - Why the physical findings are not considered the result of an underlying disease condition or predisposition but secondary to injury. This is particularly important when considering intracranial abnormalities.[8]
   - The type of force required to produce each injury;
   - The considered mechanism of injury based on the clinical assessment (based on bio-mechanical considerations);
   - Other possible mechanisms of injury that would normally be associated with the production of such an injury and the relevance or otherwise of such considerations in the particular case;
   - Whether it is possible to time the occurrence of the injury;
   - The 'category' into which the injury is considered to fall:-
     a. The injury has been caused by another person and is therefore most likely inflicted; in some cases it is necessary to consider whether other children may be responsible for the injury.
     b. The injury is most likely self-inflicted – has been caused by the child's own behaviour as a result of an interaction with their environment without directly involving other persons. In this context it is important to consider the extent to which the injury event was foreseeable or preventable because in some situations self-inflicted injury has occurred because of neglect by a parent or carer;
     c. The injury is adequately explained by the circumstances of the injury event provided in the history or version of events. Such an injury may still be inflicted but has been adequately explained by the perpetrator, child or witness. Also, the injury may be adequately explained but the circumstances of its occurrence may suggest neglect on the part of the parent or carer;
     d. Indeterminate or unclear causation.
9. Consideration should be given to the relevance of what injury treatment was undertaken and the likely prognosis. Treatment such as first aide must be noted as it can modify injury appearance. Sometimes specific types of injuries are related to specific offences. Functional impairment from injury and hence prognosis may also be relevant to the legal decision-making process.
10. Any limitation in the capacity of the paediatrician to arrive at an opinion because of a limitation in the range of material that was available or the inability to complete an optimal physical assessment because of poor co-operation by the child should be clearly stated. Also, if it's possible to identify additional extant material that may help in the formulation then this should be stated. (e.g.: review of police witness statements or a police injury site visit).

    Three other issues which should be considered by paediatricians when they prepare reports of forensic medical assessments are:-
    a. The extent of inclusion of clinical material derived from medical history taking, in the report. For example, a young child's developmental capabilities should be thoroughly assessed and reported but aspects of the child's past medical history may not be relevant to the events which are the focus of the report. (e.g.: details of pregnancy and delivery may have no relevance to injuries in older children). Careful consideration should be given however to ensure that all possibly relevant issues in relation to the injury are included. The court will then decide on relevance.
    b. The relevance of including psycho-social information in a report specifically prepared to state that the suspicious character of the injury has not been resolved. There is a risk that the writer who includes adverse psycho-social factors in the report will be considered to have been influenced in the formulation of their opinion by the psycho-social adversity identified.[9] Therefore, if it is considered necessary to include such material the paediatrician must ensure that it is clearly stated that it did not influence the forensic medical opinion.
    c. Using population research to support a single case based forensic opinion. The limitations of such research should be explained in the report and its relevance or otherwise to the given case should be made clear.
11. The report should always clearly state whether it is interim or final. Final reports must always refer to any existing

interim report, in terms of the date it was prepared and its signatory.

An identical approach, using the same headings and core principles, should be used in the writing of reports related to any child protection medical assessment, including neglect, sexual abuse or assault.

A summary of the specific section headings and core principles of report-writing in diagrammatic form is illustrated in Fig. 1:

4. Negotiating the divide between medical opinion and legal conclusion

In the context of an assessment of a suspicious injury or an ano-genital examination undertaken because of an allegation of sexual abuse, the final component of the decision-making process is provided by the judicial process which decides whether the injury was inflicted and in the criminal jurisdiction by whom.

The judicial decision concerning the circumstances of an injury event is reached by a consideration of all the evidence presented to the court. Whilst medical evidence focuses only on issues related to injury biomechanics and may provide some opinion in relation to expected standards of care from caregivers, other matters of relevance in the formulation of legal opinions require consideration of intent of persons involved in the injury event (which cannot be derived from medical evidence) in the context of legally defined thresholds, legal definitions of harm and prior relevant judgements(case law). Referring to this issue, Lord Justice Ward stated in *Re B (Care: Expert Witnesses) (1996) 1 FLR 670 (c) – (e):*

> *"The court invariably needs and invariably depends upon the help it receives from experts in this field. The expert advises but the judge decides".*

A factor which directly affects the strength of an opinion is the expertise of the paediatrician who has prepared the report. A paediatrician who prepares a report must be aware of and, if needs be, state the limitations of their expertise. The level of expertise will be considered when a report is being assessed by legal professionals.

Fig. 1. Sections of medico-legal reports of suspicious injury in children.

5. General points to consider in opinion formulation and examples of judicial guidance

A forensic conclusion stated as an opinion can be accurately conveyed in the following manner: "The injury is at this stage unexplained and therefore in the context of the child's age, developmental capabilities and the appearance and distribution of the injury(ies) an inflicted cause must remain in serious contention.'".

When it is considered that an injury has been adequately explained then that is how the opinion should be expressed; that is, the explanation adequately accounted for the injury. Whilst some experts use the term 'consistent with' to imply 'caused by', this commonly used term may imply to some that there are other possible causes and therefore its use should be carefully considered. When other causes are considered possible they need to be included when they are clearly relevant. Then they must be stated in the opinion.

In relation to the consideration of medical evidence, judicial comment has emphasised the need for experts to explain the basis of their opinions in a logical and objective process.[10]

Paediatricians who prepare reports and express opinions should be aware of the limits of their expertise and incorporate this limitation into their opinion formulation.

In this regard useful guidance is contained within a UK judgement in which Justice Charles said that medical experts should[11]:

> *"(i) identify possible causes of the relevant death, injuries or harm setting out in respect of each the reasons why it might be the cause and thus why it should be considered;*
>
> *(ii) state their views as to the likelihood of each possibility being the cause of the relevant death, injuries or harm and the reasons why they include or reject it as reasonable (as opposed to a fanciful or merely theoretical) possible cause;*
>
> *(iii) compare the likelihood of the cause (or causes) identified as reasonable possibilities being the actual cause of the relevant death, injuries or harm;*
>
> *(iv) state whether they consider that a cause (or causes) is (are) the most likely cause (or causes) of the relevant death, injuries or harm and their reasons for that view; and*

Table 1
Principles of opinion formulation which must be adhered to in medico-legal reports.

Adherence to boundaries of expertise	
Language used to communicate strength of opinion	e.g. likely, probable, i.e. differentiates expert opinion from task of the court
Fact differentiated from opinion	
Limitations of opinion specified	e.g. outstanding information needed for opinion is stated e.g. identifies population derived data if used to support opinion
Understandable	i.e. to non-medically trained professionals
Balanced	i.e.: objective and non-partisan
Scope of opinion limited to injury causation	e.g. excludes psycho-social risk factors from opinion formulation
Relevant information used as the basis of the opinion is included in report	e.g. developmental skills, medical history, differential diagnosis of injury, predisposing medical conditions, factors modifying injury appearance
Finalised report is differentiated from provisional opinion	i.e.: for final reports, all investigations have been reviewed (medical notes, investigations, ambulance reports, police and statutory investigations)
Opinion avoids speculation	i.e.: basis of opinion is explained

(v) state whether they consider that a cause (or causes) is (are) more likely than not to be the cause (or causes) of the relevant death, injuries or harm and the reasons for that view."

Justice Ryder stated[12]:

"…… experts should be asked not only whether their opinion is mainstream or orthodox …and what the range of orthodox opinions might be, but also whether within that range of opinions the answer might be that the cause of an injury is unknown, highlighting the unusual features of the case that may indicate contrary interpretations. In essence, they should take the court through the differential diagnosis highlighting any contradictory or inconsistent features."

This has been referred to as "a balance sheet approach". When the paediatrician lists the characteristics for and against the final opinion, the court is able to more readily consider the necessary legal standards to the expert's evidence.

The principles of opinion formulation are summarised in Table 1.

6. Conclusion

Through experience, the current practices of experienced child protection paediatricians and judicial comment related to opinions regarding allegations of harm, a report writing tool emphasising structure and standards has been developed. This tool is useful in writing medico-legal reports related to the forensic assessment of suspicious injury and also in any subsequent peer review process.

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No conflicts of interest.

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Appendix A

Assessment tool for child protection medico-legal reports.

Overall structure
1. Is the report understandable to professionals without medical training?
2. Is the report well balanced and objective?
3. Does the report use a structure and format that clearly differentiates fact from opinion?
4. Does the report state the age of the child at the time the events referred to in the report occurred?
5. Is the report signed and dated?

Qualifications
6. Does the report summarise the report-writers experience, qualifications?

Referral/background
7. Does the report indicate how the report-writer came to be involved in the case?

Materials relied upon for opinion
8. Does the report-writer list all materials, investigations and documents that have been reviewed and considered in the formulation of the opinion?

Injury documentation
9. Does the report identify sources of these findings (examinations and tests)?
10. Does the report identify any limitations of the adequacy of documentation of these injuries (if applicable)?
11. Does the report identify change in appearance of injury over a period of time (if relevant to the injury)?
12. Did the report-writer discuss the treatment provided to the subject child (depending on jurisdictional requirements)?

Reported history of events preceding assessment
13. Does the report identify the source of this history?

Opinion
14. Does the report-writer stay within their expertise?
15. Where it is possible to do so and within the report-writers expertise, do they provide any opinion relevant to mechanism of injury (whilst avoiding speculation)?
16. Where it is possible to do so and within the report-writers expertise, do they provide any opinion relevant to issues of timing of injury (whilst avoiding speculation)?
17. Where it is possible to do so and within the report-writers expertise, do they provide any opinion relevant to the types of forces involved in injury causation (whilst avoiding speculation)?
18. Where it is possible to do so and within the report-writers expertise and relevant to the jurisdictional expectations, do they provide any opinion relevant to prognosis (whilst avoiding speculation)?
19. If the report is provisional, has the report-writer clearly stated that outstanding information (such as review of all medical notes, ambulance reports, investigations from police and statutory assessments), is necessary before a finalised report can be issued?
20. Does the report-writer use language that appropriately conveys the strength of their opinion without ambiguity?
21. Does the report-writer define any limitations to the opinion provided?
22. If psycho-social factors are included in the report does the report-writer explicitly state that the opinion has not been based on these risk factors?
23. Does the report-writer demonstrate that all relevant information regarding injury causation has been considered in reaching a conclusion (eg. developmental skills, medical history, differential diagnosis of injury, predisposing medical conditions, factors modifying injury appearance)?
24. Does the report-writer ensure the basis of the opinion is explained and speculation is avoided?

Forensic conclusion
25. If within the expertise of the report-writer has the report-writer provided a forensic conclusion for each injury or injury cluster separately rather than regarding all the injuries together?
26. If a history is available (one or more versions) does the report conclude whether the injury findings **could** be accounted for, if this is within the report-writers expertise, ensuring language used differentiates this conclusion from the tasks of other professionals or jurisdictions?
27. With regards to the opinion or conclusion if the report-writer has used population derived data as a basis of opinion, is this clearly identified?
28. If within the report-writers expertise, does the report-writer comment on important and relevant alternative circumstances that **may** account for the findings (for example an unwitnessed self-inflicted injury)?

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